

User Guide

Metadata portal project aims to develop a metadata portal for linking geo-spatial datasets available across multiple MoES data portals. The project involves creation of metadata for geo-spatial datasets using metadata standards and development of a search interface for discovery of metadata and the corresponding datasets.

Metadata portal is developed using Java enterprise technologies and is deployed on Apache Tomcat web application server. MySQL database is used for the archival of the metadata information.

Salient Features:

- ISO 19115 standards compliant representation of metadata information
- GCMD Science Keywords for controlled keyword search
- Spatial, Temporal, Keyword & Free Text Search
- Simple interface for metadata submission, update and search
- Java EE technologies based cross platform solution



Fig 1: Metadata Portal index page

Search Interface

Metadata Portal search interface can be assessed by clicking on the "Click here to view Metadata" link or the "Metadata" link provided on the top right navigation menu as shown in the above Metadata Portal index page figure. The search interface is used to search for relevant datasets by using free text or simple keywords such as parameters, sensors, instruments, locations etc. GCMD Science keywords directory is used for controlled search of keywords. The results can also be filtered based on organization, personnel, place/location, start date & end date and spatial extent (Bounding Box).

The search interface is divided mainly into two sections. The Left section consists of Additional Options to filter your search results based on various search criteria such as GCMD Keywords, Spatial Extent, Temporal Extent, Organization, Personnel, Place/Location. The Right section displays the relevant datasets (Search Results) based on the search criteria selected in the left section. The search interface also contains text-field for free text search.

Free Text Search:

The search interface allows free text search of datasets. Enter the free text search terms / phrases (Example:- sea surface temperature) in the text field provided on the top and click on "search for" button as shown in below figure. The relevant datasets referring the entered free text search term/phrase will be displayed in the Search Results section.

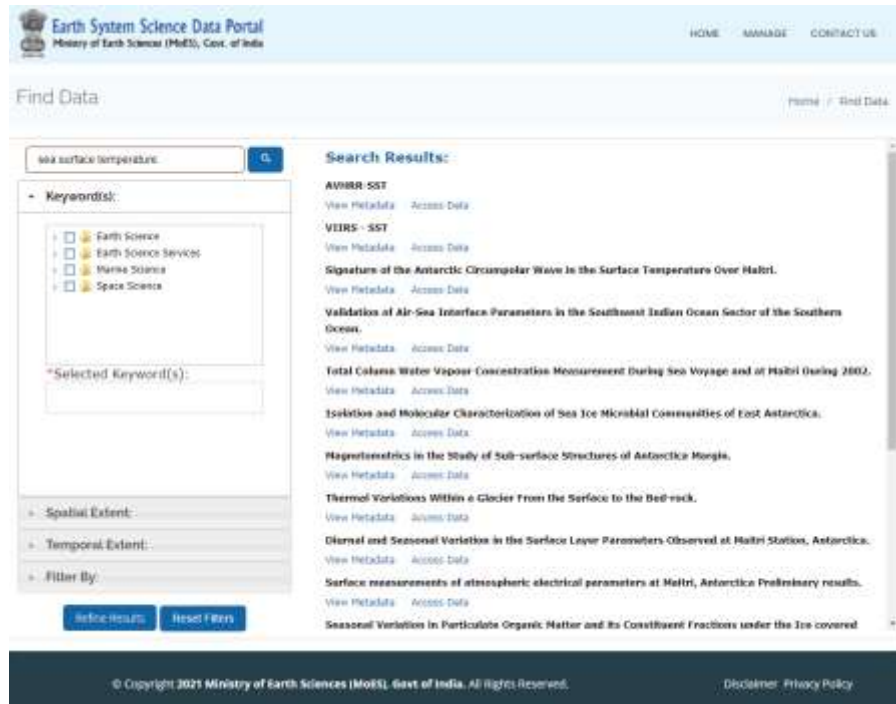


Fig 2: Free Text Search

Keyword Search:

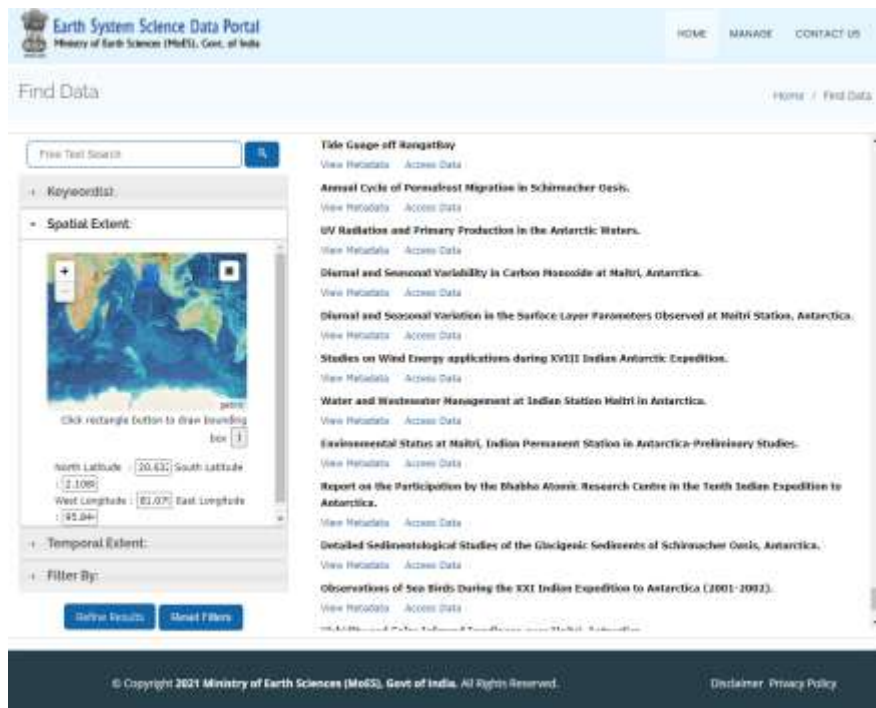
The search interface allows keyword search based GCMD Science Keywords. Click on Keyword(s) tab displayed on the left section. Select the required GCMD science keywords by checking the corresponding check-boxes shown beside the keyword terms (Example:- Ocean Waves and Tides) as shown in below figure. The GCMD science keywords are displayed hierarchically in a tree structure. Expand the relevant nodes of the tree structure by clicking on the small triangle displayed beside each node. Multiple keywords can be selected and the selected keywords are displayed below in the same tab. Click on "Refine Results" button as shown in below figure. The relevant datasets referring the selected keywords will be displayed in the Search Results section.

The screenshot displays the Earth System Science Data Portal interface. At the top, the portal's name and logo are visible, along with navigation links for HOME, MANAGE, and CONTACT US. The main heading is "Find Data". On the left, there is a search bar and a "Keyword(s)" section. The "Keyword(s)" section shows a tree structure of GCMD science keywords, with "Ocean Waves" and "Tides" selected. Below the tree, there is a "Selected Keyword(s)" field and a "Refine Results" button. On the right, the "Search Results" section displays a list of datasets, each with a "View Metadata" and "Access Data" link. The datasets listed are: Coastal Wave Rider Buoy off Kanyakumari, Coastal Wave Rider Buoy off Calicut, Coastal Wave Rider Buoy off Goa, Coastal Wave Rider Buoy off Kavaretti, Coastal Wave Rider Buoy off Varavel, Coastal Wave Rider Buoy off Kozhikode, Coastal Wave Rider Buoy off Karalkal, Coastal Wave Rider Buoy off Agatti, Coastal Wave Rider Buoy off Gopalspur, Coastal Wave Rider Buoy off Karwar, and Coastal Wave Rider Buoy off Kulkarni. At the bottom of the page, there is a footer with copyright information: "© Copyright 2021 Ministry of Earth Sciences (MOES), Govt. of India. All Rights Reserved." and a link to "Datacenter Privacy Policy".

Fig 3: Keyword Search

Spatial Search:

The search interface allows search for datasets whose spatial extent intersects with the specified bounding box drawn on map. Click on Spatial Extent tab displayed on the left section. The required bounding box can be entered either by drawing on the map or by entering the North, South, East and West coordinates of the spatial extent in the corresponding text fields as shown in below figure. Click on "Draw a bounding box" button displayed on top right corner of the map to enable drawing of bounding box on the map. Click and drag the mouse on the required region of the map and release the mouse to finish the drawing of the bounding box. The North, South, East and West coordinates of the drawn bounding box are entered automatically in the text fields below. Click on "Refine Results" button as shown in below figure. The relevant datasets referring the selected spatial extent will be displayed in the Search Results section.



The screenshot displays the Earth System Science Data Portal's search interface. At the top, the portal's name and logo are visible, along with navigation links for HOME, MANAGE, and CONTACT US. The main heading is "Find Data". Below this, there is a search bar and a "Free Text Search" button. The "Spatial Extent" section is active, showing a map of the Indian Ocean region with a bounding box drawn around a specific area. Below the map, there are input fields for North Latitude (20.63), South Latitude (2.108), West Longitude (81.07), and East Longitude (85.84). A "Draw a bounding box" button is located on the right side of the map. Below the map, there are sections for "Temporal Extent" and "Filter By". At the bottom of the search interface, there are "Refine Results" and "Cancel Filters" buttons. On the right side, a list of search results is displayed, including titles like "Tide Gauge off Rangetboy", "Annual Cycle of Permafrost Migration in Schirmacher Gesh.", and "UV Radiation and Primary Production in the Antarctic Waters". Each result includes a "View Metadata" and "Access Data" link. At the bottom of the page, there is a footer with copyright information: "© Copyright 2021 Ministry of Earth Sciences (MoES), Govt. of India. All Rights Reserved." and a "Disclaimer Privacy Policy" link.

Fig 4: Spatial Search

Temporal Search:

The search interface allows search for datasets whose temporal extent (Start & End dates) intersects with the specified temporal extent (Start & End dates). Click on Temporal Extent tab displayed on the left section. Enter the Start and End dates in the corresponding text fields as shown in the below figure. Click on "Refine Results" button. The relevant datasets referring the selected temporal extent will be displayed in the Search Results section.

The screenshot displays the Earth System Science Data Portal interface. At the top, the portal's name and logo are visible, along with navigation links for HOME, MANAGE, and CONTACT US. The main heading is "Find Data", with a breadcrumb trail "Home / Find Data".

The search interface includes a "Free Text Search" input field with a search icon. Below this, there are three filter tabs: "Keyword(s)", "Spatial Extent", and "Temporal Extent". The "Temporal Extent" tab is currently selected and expanded, showing two input fields: "Start Date" with the value "2000-01-01" and "End Date" with the value "2000-12-31". Below these fields is a "Filter By:" section. At the bottom of the filter section are two buttons: "Refine Results" and "Reset Filter".

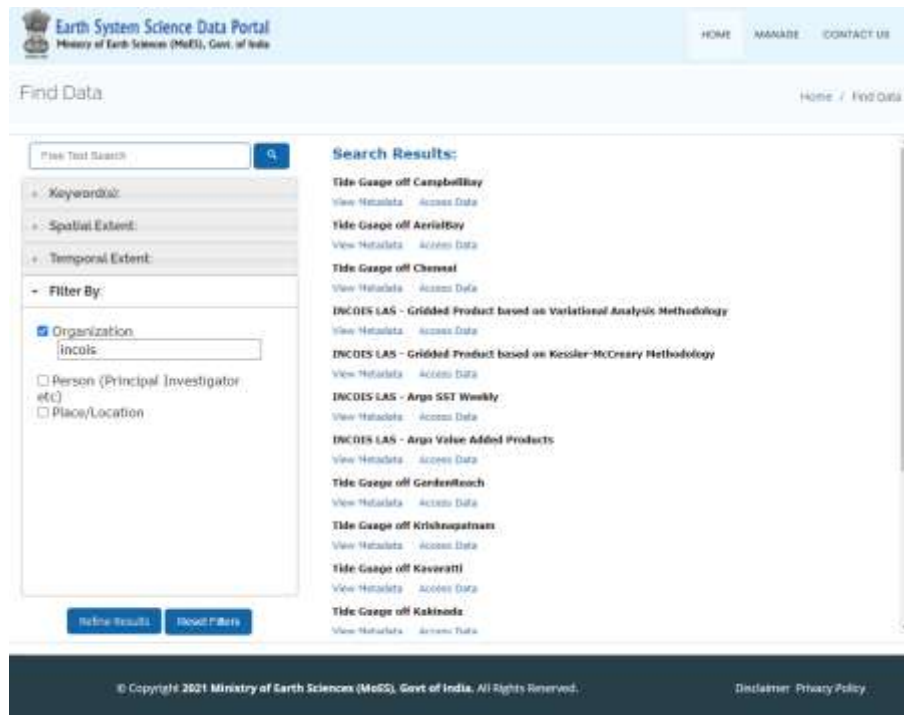
The search results are listed on the right side of the page. The first result is "Earthquake", with links for "View Metadata" and "Access Data". The second result is "Biomarkers and their Application in Paleoenvironmental Study of Lake Ecosystem of Schirmacher Oasis, Antarctica", also with "View Metadata" and "Access Data" links. Other results include "Diversity of Invertebrate Fauna of Schirmacher Oasis, East Antarctica", "Environmental Status at Indian Polar Research Station Maitri - A Comprehensive Study", "Magnetic Pulsations Over Antarctica Results From the Three-station Triangulation Experiment", "Changes in LogP and Neuropeptide Y in Team Members of Indian Antarctic Expedition", "Stress, Anxiety and Loneliness Among 20th Indian Expeditioners at Antarctica During Summer", "Assessment of Wastewater Treatment Scheme at Indian Antarctic Station, Maitri", "Wind Energy Application in Indian Antarctic Station, Maitri, Antarctica", "Logistic Activity Carried Out by the 20th Indian Antarctic Expedition", and "Study of Very Low Frequency (VLF) Phenomena at Maitri, Antarctica". Each result includes "View Metadata" and "Access Data" links.

At the bottom of the page, there is a footer with the copyright notice: "© Copyright 2021 Ministry of Earth Sciences (MoES), Govt. of India. All Rights Reserved." and a link for "Disclaimer Privacy Policy".

Fig 5: Temporal Search

Filter by Organization, Personnel & Place/Location:

The search interface allows to filter datasets based on organization, person and place/location. Click on "Filter by" tab displayed on the left section. Select the search criteria by the checking the corresponding check-box shown beside each criteria. Enter the required search term (Example:- Organization - NIOT) in the corresponding text field as shown in the below figure. Click on "Refine Results" button. The relevant datasets referring the selected search criteria will be displayed in the Search Results section.



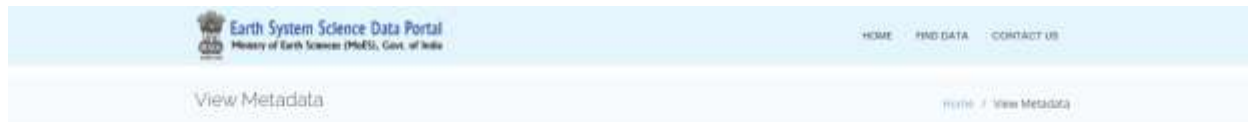
The screenshot displays the Earth System Science Data Portal search interface. At the top, the portal's name and logo are visible, along with navigation links for HOME, MANAGE, and CONTACT US. Below this is a 'Find Data' section with a search bar and a 'Home / Find Data' breadcrumb. The main search area is divided into two columns. The left column contains filter options: Keyword(s), Spatial Extent, Temporal Extent, and Filter By. Under 'Filter By', the 'Organization' checkbox is checked, and the text 'incis' is entered in the adjacent input field. Other filter options like 'Person (Principal Investigator etc)' and 'Place/Location' are unchecked. Below the filters are 'Refine Results' and 'Reset Filters' buttons. The right column, titled 'Search Results:', lists several datasets with their titles and links to 'View Metadata' and 'Access Data'. The datasets include 'Tide Gauge off Campbell Bay', 'Tide Gauge off Aerial Bay', 'Tide Gauge off Chennai', 'INCOIS LAS - Gridded Product based on Variational Analysis Methodology', 'INCOIS LAS - Gridded Product based on Kessler-McCreary Methodology', 'INCOIS LAS - Argo SST Weekly', 'INCOIS LAS - Argo Value Added Products', 'Tide Gauge off Gendritoch', 'Tide Gauge off Krishnapatnam', 'Tide Gauge off Kaveratti', and 'Tide Gauge off Kakinada'. At the bottom of the page, there is a dark footer with copyright information for the Ministry of Earth Sciences (MoES), Govt. of India, and a link to the Disclaimer/Privacy Policy.

Fig 6: Filter By Organization, Person, Place/Location

View Metadata and Access data:

The search results displayed on the right hand side include titles of relevant datasets, link to view detailed metadata of corresponding dataset and link to access data of corresponding dataset. Click on "View Metadata" to view detailed metadata of selected dataset. Click on "Access Data" to access data of corresponding dataset.

The Search interface also represents metadata of selected dataset in ISO 19115-2 and ISO 19115-1 XML formats. To view the metadata in ISO formats click on "ISO 19115-2 Metadata (XML)" and "ISO 19115-1 Metadata (XML)" links given on the top right corner of the detailed metadata page as shown in below figure.



National Data Buo Programme

[ISO 19115-2 Metadata \(XML\)](#) | [ISO 19115-1 Metadata \(XML\)](#)

Access URL: <https://www.moes.gov.in/portal/data/vfmdts.jsp>

Brief Description (Abstract):

Recognising the imperative to improve the oceanographic services and predictive capability of short term and long term climatic changes as well as to increase the understanding of the ocean dynamics the Ministry of Earth Sciences (MOES) established the National Data Buo Programme in 1997. The programme is being implemented by the National Institute of Ocean Technology (NIOT), Chennai. The moored buoy network has been providing time series data on meteorological parameters from the seas surrounding India, since 1997. NIOT has been identified as the Data Centre to provide the moored buoy data to the users on request.

Status: Ongoing

Presentation Format: Table/Digital

Distribution Format: Unknown

Distribution Format Version: Unknown

Keyword(s): Earth Science-Oceans-Ocean Temperature/Water Temperature, Earth Science-Oceans-Ocean Temperature-Sea Surface Temperature, Earth Science-Oceans-Salinity/Density-Salinity, Earth Science-Oceans-Salinity/Density-Conductivity, Earth Science-Atmosphere-Atmospheric Water Vapor-Humidity, Earth Science-Oceans-Ocean Waves, Earth Science-Oceans-Ocean Winds, Earth Science-Oceans-Ocean Circulation-Ocean Currents, Earth Science-Atmosphere-Atmospheric Pressure, Earth Science-Atmosphere-Atmospheric Temperature-Surface Temperature-Air Temperature, Earth Science-Atmosphere-Atmospheric Temperature, Earth Science-Atmosphere-Atmospheric Radiation.

Place/Location(s):

Project:

Topic Category(s): Oceans.

Date(s): 2015-06-01 (Publication).

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Role : Principal Investigator
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Organization Name : National Institute of Ocean Technology (NIOT)
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Postal Code : 600100
Country : IND

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City : Hyderabad
State : Telangana
Postal Code : 500090
Country : IND

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Address : Ocean Valley, Pragathi Nagar (BO), Nizampet (SO)
City : Hyderabad
State : Telangana
Postal Code : 500090
Country : IND

Extent:

Start Date : 1997-08-21

End Date : Till date

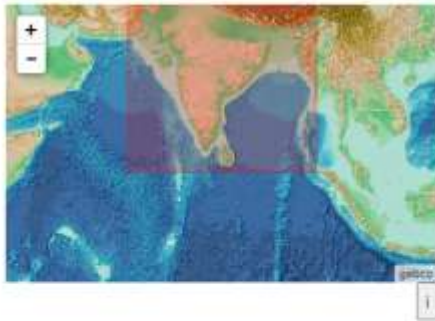


Fig 7: Metadata View

